



COLLABORATE17
TECHNOLOGY AND APPLICATIONS FORUM
FOR THE ORACLE COMMUNITY

I am a Systems Analyst; APEX Turned me into a Developer

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Room: Breakers I

Prepared by: Fidel Fayad, Systems Analyst - Jet Propulsion Laboratory

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Agenda

- About Presenter & Co-Presenter
- About Jet Propulsion Laboratory (JPL)
- My Function at JPL
- Why APEX?
- Purpose of the Session
- Basics of Development
 - Data
 - User Interface
 - Actions
- Recipe for Success



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About the Presenter

Name	Fidel Fayad
Credentials	B.S. Computer Science M.S. Information Technology
Company	Jet Propulsion Laboratory (JPL)
Title	Enterprise Systems Analyst (Hybrid)



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About the Co-Presenter

Name	Kevin Tong
Credentials	B.S. Computer Engineering M.S. Computer Engineering
Company	Jet Propulsion Laboratory (JPL)
Title	Enterprise Applications SW Engineer



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Jet Propulsion Laboratory



- JPL is a NASA funded research and development center
- A unique national research facility that carries out robotic space and Earth science missions



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My Function at JPL

- Enterprise Systems Analyst in the Business IT department supporting Oracle EBS modules
 - Accounts Payables (AP)
 - Enterprise Asset Management (EAM)
 - Shipping (Custom APEX Application)
- Activities Include:
 - Patch Testing
 - Service Requests
 - Enhancement Requests



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Current Project Work

- Lead APEX developer for the Procurement Card Replacement Project
- Lead system analyst for the Kofax Transformation Module implementation

My ESA Knowledge

- Analytical Skills (Problem Solving)
- Knowledge of P2P Business Processes
- Oracle Systems Setup and Configuration
- SQL
- HTML
- CSS



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Why APEX?

- Supplier Maintenance Enhancement Request
 - Store attachments in encrypted environment
- Solution
 - Extend Account Payables' Supplier Maintenance Form capability by linking it to an APEX application that stores attachments in a custom encrypted table
- My involvement
 - Look and feel of the APEX application
 - My desire to ensure an adequate user experience when navigating between both applications, led me to experiment with APEX for the first time and my experience was eye-opening.



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As a Systems Analyst, I work directly with my stakeholders and the development team. One of my responsibilities in this role is to ensure that the solution that we deliver accomplishes its goals and it does it in a user-friendly fashion.

The solution involved creating an 'Attachments' custom button on the Supplier Maintenance form that opens an APEX application where the user can upload attachments associated with a particular supplier. The APEX application will store the attachments in an encrypted environment.

The Solution design was straight forward; however, when the development team finished the first phase, I realized that there is a disconnect between the look and feel of the Oracle Supplier Maintenance form and the new attachments form in the APEX application.

As I expressed my concerns to the development team, we sat together to make changes to the look and feel of the APEX application and I quickly noticed how relatively easy it is to make these changes.

I then asked the developer if he would feel comfortable if I made these changes. The developer agreed and helped me familiarize myself with APEX. Shortly after, I was comfortable with APEX and was able to match the look and feel of the Supplier Maintenance form while in the process learning the basics of APEX development

Result

The image displays two screenshots of a web application interface. The top screenshot is the 'Oracle Payables Form', which is a complex form with multiple tabs and fields for supplier information. The bottom screenshot is the 'APEX Custom Application', which is a simplified version of the same form. An arrow points from the Oracle Payables Form to the APEX Custom Application, indicating a transition or comparison. The APEX Custom Application has a clean, modern design with a blue header and a white body. It includes a sidebar with navigation links and a main content area with a form for adding attachments. The form has fields for 'Attachment Type', 'File', and 'Note'. Below the form is a table for 'Attachments List' with columns for 'Delete', 'Edit', 'File', 'Category', 'Note', 'Comment', 'Last Updated By', 'Last Update Date', and 'Attachment Type'. The table is currently empty, showing 'No attachments found.'.



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This is the final result.

All of the look and feel changes required basic HTML and CSS knowledge only which I already had but is also easy to learn quickly.

Lessons Learned

- APEX is easy to develop in
- Removes several prerequisites for development
- Starts the development process at the 50% mark rather than from point zero
- Arguably doesn't require knowledge in web development for basic applications



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APEX removes several prerequisites for development such as setting up the development environment, interaction with the database, committing data to the database.

It starts the development process at the 50% mark rather than from point zero. The User Interface is already established via APEX templates. UI components such as buttons, fields, calendars, forms, reports,.. are already defined and don't require the developer to create them. Because of that, APEX arguably doesn't require knowledge in web development for basic applications

Purpose of this Session

What it is NOT

- APEX Tutorial

What it IS

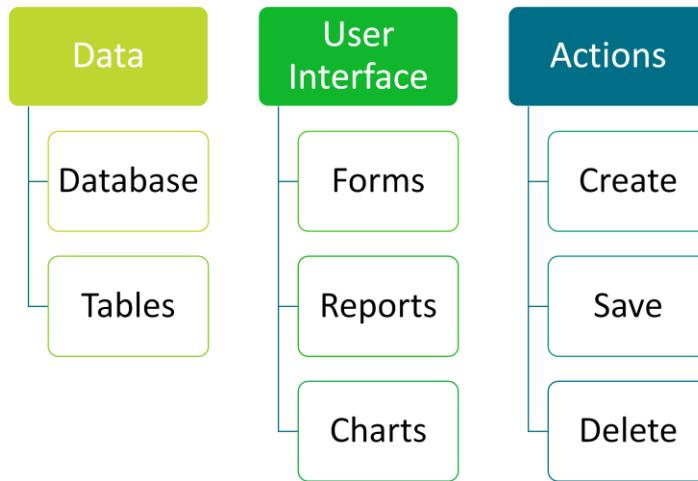
- An opportunity to
 - Share how certain barriers to development can be bypassed by using APEX
 - Highlight the key components that make APEX easy to use
 - Provide a recipe for successful transition from a Systems Analyst to an APEX developer



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I used to think that development is complex, and it may well be; however, development with APEX is relatively easy even for complex solutions. It removes the barriers that exist with other development tools or technologies and allow functional users to extend their capabilities to the development arena. My first interaction with APEX was enlightening. It made me realize that I too can be a developer if I use this tool. Had I not made the suggestion to alter the look and feel of the APEX solution that I mentioned earlier; and had I not worked with a developer on it, I wouldn't have known APEX. This is exactly the purpose of this session which is to let Systems Analysts know of APEX; its capabilities, and more importantly, to encourage them to explore it and use it.

Basics



In the development world, there are 3 basic components to keep in mind: The data, The user Interface, and Manipulating the data on the user interface via various actions.

APEX simplifies the interaction with these 3 components.

Data

- Database
 - Already there
- Tables
 - Easy to create via wizard
 - SQL Workshop > Object Browser > New Table
 - Table Name, Columns Names, Columns Attributes
 - Primary Key, Sequence



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Before any development can be started, a database needs to be setup to host the tables. And tables need to be created to hold the data.

Since APEX ships with the Oracle Database, there is no need to worry about the database.

Tables in APEX are easily created using the table creation wizard.

Data

ORACLE Application Express App Builder SQL Workshop Team Development Packaged Apps

Create Table

Columns

Table Name

☐ Preserve Case

Column Name	Type	Precision	Scale	Not Null	Identity	Move
<input type="text"/>	Select Datatype --					^v
<input type="text"/>	Select Datatype --					^v
<input type="text"/>	Select Datatype --					^v
<input type="text"/>	Select Datatype --					^v
<input type="text"/>	Select Datatype --					^v
<input type="text"/>	Select Datatype --					^v
<input type="text"/>	Select Datatype --					^v
<input type="text"/>	Select Datatype --					^v

Data

Demo



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User Interface

- Forms
 - Select form type
 - Select table that the form will interact with
 - Select actions
 - Create - Update - Delete
- Reports
 - Select report type
 - Select table that you're reporting on
 - Select columns
- Demo



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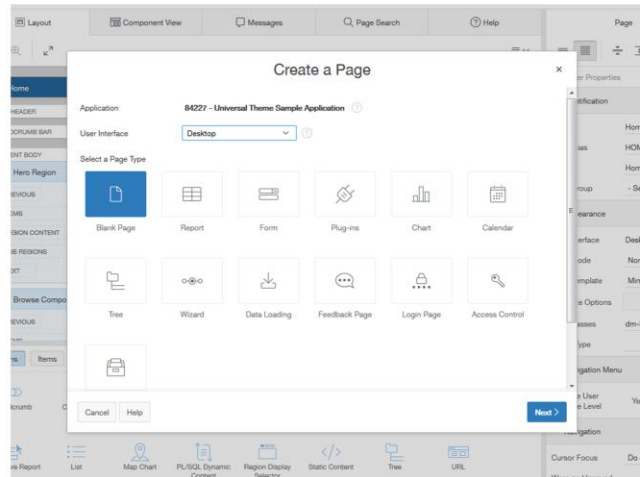
Forms can be auto-created based on the tables that were created in the previous step.

Form elements can be moved and configured easily using APEX's editor.

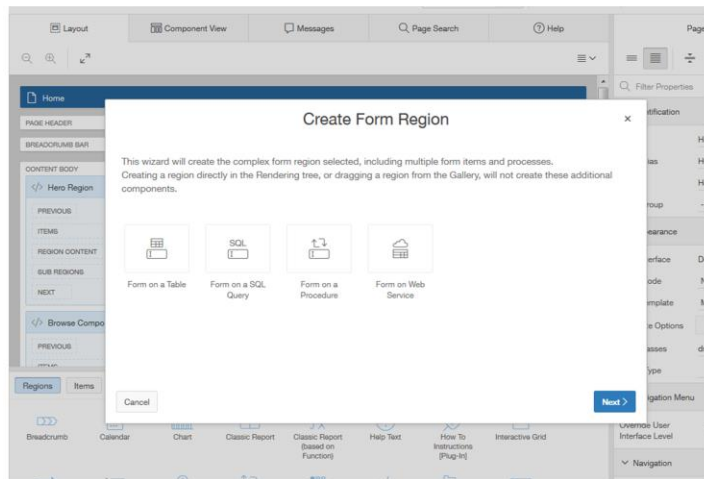
Reports are created and configured in the same fashion.

There are options to link forms and reports such as a form that updates a report.

User Interface



User Interface



User Interface

Demo

Actions

- Create, Save, and Delete are executed via processes
- No need to write code to update the database for simple actions
- Demo



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Create, Save, and Delete are executed via processes.

No need to write code to update the database for simple actions

There are other interactions such as conditionally hiding fields, or setting values of certain fields, etc.. that are accomplished via 'Dynamic Actions'

Recipe for Success

- Create an APEX account on apex.oracle.com
- Check out and examine Packaged Applications
- Create applications and practice
- Check out APEX tutorials or Sign up for Training
- Slowly increase your knowledge in HTML and CSS
- Try to learn basics of PL/SQL and Javascript
- Find a Developer willing to coach you (Very important)



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The 2 most important components of becoming an APEX developer are:

- Practice and explore the Packaged Applications that already exist in APEX. You will learn a lot from them
- Make sure you have a developer willing to coach you as you learn APEX. This is very important because it will keep you from being discouraged if certain topics are new to you. A developer can save you a ton of research and can sometimes explain concepts in a more direct way than reading about it in books or online. A mentoring developer is key for the analysts confidence in their quest to learn APEX.

Resources

- apex.world
- apex.oracle.com



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Q&A

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